



Safety Data Sheet

1. Product and company identification

Product Name Poly-Tron Aggregate

Product Type Mixture of Crushed Gravel, Silica Sand and/or Ground Silica; Crystalline Silica (Quartz)

Product Use Reinforcing Filler for Elastomeric Concrete
(DO NOT use this product in sand blasting operations!)

Manufacturer/Supplier RJ Watson, Inc. www.rjwatson.com
11035 Walden Ave. sales@rjwatson.com
Alden, NY 14004
U.S.A.

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Telephone **For 24-Hour Emergency Response Information**
Call ChemTel: (800) 255-3924 (U.S./Canada)
+1-813-248-0585 (International)

For Other Product or Technical Information
Call RJ Watson, Inc.: (716) 901-7020

2. Hazards identification

Product Form Granular Solid

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazard Category Classification:	Carcinogenicity	1A	Known Human Carcinogen (via Inhalation)
	Specific Target Organ Toxicity (Repeated Exposure)	1	Target Organ Toxicity (Lung Damage via Prolonged/Repeated Inhalation)

GHS Pictogram(s):



Signal Word: DANGER

Hazard Statement:	H350	May cause cancer (by inhalation).
	H372	Causes damage to organs (lungs) through prolonged or repeated exposure (by inhalation).

Precautionary Statements:

Prevention:	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P260	Do not breathe dust.
	P264	Wash hands and exposed skin thoroughly after handling.
	P270	Do not eat, drink, or smoke when using this product.
	P280	Wear protective gloves / protective clothing / eye protection.

Response:	P308 + P313	IF exposed or concerned: Get medical advice / attention.
	P314	Get medical advice / attention if you feel unwell.

Storage:	P405	Store locked up.
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Disposal:

P501

Dispose of contents / container to a disposal facility in accordance with all local / national / international regulations.

3. Composition/Information on ingredients

<u>Ingredient name</u>	<u>CAS number</u>	<u>WT %</u>
Crystalline Silica (quartz)	14808-60-7	95.0 - 99.9%

4. First aid measures

Eye contact	In case of contact with the eyes, rinse immediately with plenty of clean, low-pressure water, occasionally lifting the upper and lower eyelids. Do not rub eyes. Remove any contact lenses that may be present. If irritation persists, seek medical attention.
Skin contact	Rinse and wash contaminated skin with water. Seek medical attention if irritation develops or persists.
Inhalation	Remove the affected individual into fresh air and keep the person calm. Assist in breathing, if necessary. If breathing becomes labored or difficult, get medical attention.
Ingestion	Rinse mouth with water. Additional first aid is generally not required.
Notes to physician	Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient.

Potential acute health effects

Eyes	May produce abrasive irritation of the eye.
Skin	May cause skin dryness and/or mild irritation.
Inhalation	Inhalation may cause respiratory tract irritation.
Ingestion	None known.

Potential chronic health effects

Chronic effects	Prolonged inhalation of respirable crystalline silica above certain concentrations may cause lung diseases, including silicosis and lung cancer.
Carcinogenicity	This product contains Crystalline Silica (Quartz) (CAS # 14808-60-7), which is classified as carcinogenic to humans by IARC (IARC Group 1 – fine fraction) via inhalation
Developmental effects	None known.
Fertility effects	None known.
Target organs	Lungs.

Over-exposure signs/symptoms

Inhalation	Cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath.
Ingestion	Dry, gritty taste in the mouth. Irritation of the mouth and throat.
Skin	Skin dryness &/or mild irritation.
Eyes	Irritation or abrasive feeling in the eyes; pain, redness, tearing.
Medical conditions aggravated by over-exposure	Pre-existing lung conditions involving impaired respiratory function.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Flammability properties of the product **Flash Point:** Not Applicable
Flash Point Method Used: Not Applicable
Flammable Limits in Air (Lower - % by volume): Not Determined
Flammable Limits in Air (Upper - % by volume): Not Determined

Extinguishing media

Suitable

Product is not flammable, combustible or explosive.
Use extinguishing media appropriate for surrounding fire conditions or to extinguish any fire involving product packaging.

Not suitable

None known.

Special exposure hazards

None known.

Hazardous combustion products

None known.

Unusual Fire and Explosion Hazards

None.
Product is not flammable, combustible or explosive.

Special protective equipment for fire-fighters

None required for this product.

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Clear area. Ensure adequate ventilation. Put on appropriate personal protective equipment (see section 8). Avoid generating airborne dust during clean-up operations.

Environmental precautions

Avoid dispersal of spilled material. Inform the relevant authorities, if required, if the product has caused environmental pollution (sewers, waterways, soil or air).

Spill Response

Restrict access to clean up personnel only. Keep nuisance dust cloud formation to a minimum. Wet down the spilled material with water to prevent dust cloud formation. Scoop up the wet, spilled material, transfer it to plastic bags and seal the bags for disposal.

7. Handling and storage

Handling

Keep product dry to maintain product quality. Avoid spillage. Keep nuisance dust cloud formation to a minimum. Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid breathing dust. Avoid contact with eyes. Avoid tasting or swallowing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

Storage

Keep in the original container or an approved alternative made from a compatible material. Keep product dry and keep container closed when not in use. Store product indoors, if possible. If stored outdoors, keep product dry and away from precipitation. Store in accordance with all local and government regulations.

8. Exposure controls/personal protection

CAS Number	Chemical Identity	Exposure Limits		
		ACGIH	OSHA	NIOSH
		TWA	PEL	REL
14808-60-7	Crystalline Silica (quartz)	0.025 mg/m ³ TWA (respirable dust)	10 mg/m ³ %SiO ₂ + 2 TWA (respirable dust) 30 mg/m ³ %SiO ₂ + 2 TWA (total dust)	0.05 mg/m ³ TWA (respirable dust)

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures

Keep nuisance dust cloud formation to a minimum. If mechanical ventilation is required, use adequate, properly designed ventilation systems. If operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated clothing should be fully decontaminated before reusing. Ensure that eyewash stations and safety showers are located in the work area.

Respiratory

Use a properly fitted, air-purifying or particulate-filter respirator complying with an approved standard (such as NIOSH) if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eyes

Safety glasses with side shield are recommended.

Skin

Impervious gloves should be used. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9. Physical and chemical properties

Form	Granular Solid / Powder
Color	Tan, Brown, or Gray
pH	Not applicable
Boiling point	2230°C (4046°F)
Freezing Point	1710°C (3110°F)
Specific gravity	2.65 g/cm ³
Vapor pressure	Not applicable
Odor threshold	None (odorless)
Solubility in water	Insoluble
Evaporation rate	Not applicable
Vapor density	Not applicable

10. Stability and reactivity

Stability	The product is stable. Not reactive under normal conditions of use. Hazardous polymerization will not occur.
Conditions to avoid	Avoid generation of dust in handling and use.
Materials to avoid	Reactive or incompatible with the following materials: Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.
Other hazards	None known.
Hazardous decomposition products	Silica will dissolve in hydrofluoric acid and produce a corrosive gas, silicon tetrafluoride.

11. Toxicological information

Acute toxicity

LD50 Oral	Rat	> 22,500 mg/kg
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Irritation / Corrosion

Eyes:	Contact may cause mechanical irritation and possible injury.
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Sensitization

Not sensitizing.

Carcinogenicity Classification

Crystalline Silica (quartz) (CAS No. 14808-60-7)	IARC NTP OSHA EU	Carcinogenic to Humans (Group 1 – fine fraction) Known to be a Human Carcinogen Not regulated as a carcinogen Not classified
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Silicosis

Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute:

Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years (10 to 20 or more) of prolonged repeated inhalation of relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Complicated silicosis or PMF symptoms, if present, are shortness of breath and cough. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale).

Accelerated Silicosis can occur with prolonged repeated inhalation of high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid.

Acute Silicosis can occur after the repeated inhalation of very high concentrations of respirable crystalline silica over a short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, weakness and weight loss. Acute silicosis is fatal.

Autoimmune Diseases

Several studies have reported excess cases of several autoimmune disorders -- scleroderma, systemic lupus erythematosus, and rheumatoid arthritis -- among silica-exposed workers.

Tuberculosis

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to tuberculosis bacteria. Individuals with chronic silicosis have a three-fold higher risk of contracting tuberculosis than similar individuals without silicosis.

Kidney Disease

Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", *Nephron*, Volume 85, pp. 14-19 (2000).

Non-Malignant Respiratory Diseases

The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).

For more information, refer to these sources:

The **NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica** published in April 2002 summarizes and discusses the medical and epidemiological literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica.

The *NIOSH Hazard Review* is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or through the NIOSH web site, www.cdc.gov/niosh/topics/silica, then click on the link "NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica".

For a more recent review of the health effects of respirable crystalline silica, the reader may consult *Fishman's Pulmonary Diseases and Disorders*, Fourth Edition, Chapter 57. "Coal Workers' Lung Diseases and Silicosis".

Finally, the US Occupational Safety and Health Administration (OSHA) published a summary of respirable crystalline silica health effects in connection with OSHA's Proposed Rule regarding occupational exposure to respirable crystalline silica. The summary was published in the September 12, 2013 Federal Register, which can be found at <https://www.federalregister.gov/d/2013-20997>.

12. Ecological information

Environmental effects

Ecotoxicity

Species:	Effective concentration:
Cyprinus carpio LC50	>10,000 mg/L/72 hr.

This product is not expected to present an environmental hazard.

Biodegradability

No data available.

13. Disposal considerations

Waste disposal

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material.

This product is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

14. Transport information

The data provided in this section is for information only and may not be specific to each package size or mode of transport. Apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR	N/A	Not dangerous goods	N/A	N/A
TDG	N/A	Not dangerous goods	N/A	N/A
IMO/IMDG	N/A	Not dangerous goods	N/A	N/A
IATA	N/A	Not dangerous goods	N/A	N/A

*PG : Packing group

15. Regulatory information

US regulations

HCS Classification When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

U.S. Federal regulations

SARA Title III, Section 311/312 Classification

Immediate (Acute) health hazard
Delayed (Chronic) health hazard

SARA Title III, Section 313 - Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

No chemicals present above the *de minimus* limit.

CERCLA RQ: None

SARA Section 302 Extremely Hazardous Substances

None required.

State regulations

Massachusetts RTK Substances

None

New Jersey RTK Hazardous Substances

Silica, Quartz (CAS # 14808-60-7)

Pennsylvania RTK Hazardous Substances

Quartz (SiO₂) (CAS # 14808-60-7)

California Prop. 65: WARNING: This product contains the following chemical(s) known to the State of California to cause cancer:

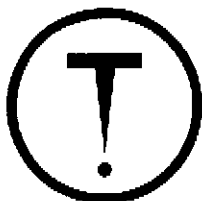
Silica, Crystalline (airborne particles of respirable size)

California Prop. 65: WARNING: This product contains the following chemical(s) known to the State of California to be a reproductive toxin:

None

Canada Regulations

WHMIS Classification:
D2A - Very Toxic (Carcinogenicity)



International regulations Chemical inventories

Australia (Australian Inventory of Chemical Substances) - All components are listed or exempted

Canada (Domestic Substance List) - All components are listed or exempted

China (IECSC) - All components are listed or exempted

Japan (Ministry of International Trade and Industry) - All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law Registry Number 1-548

* Korea (Korea Existing Chemicals Inventory) - Listed on the ECL with registry number 9212-5687.

New Zealand (HSNO) - All components are listed or exempted.

Philippines Inventory of Chemicals and Chemical Substances - Listed for PICCS

Taiwan: (CSNN) - All components are listed or exempted.

United States inventory (TSCA 8b) - All components are listed or exempted.

16. Other information

Hazardous Material Information System III (U.S.A.)	Health: 1* Flammability: 0 Physical hazards: 0 Personal Protection: X
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* Warning – Chronic health effect possible – inhalation of silica dust may cause lung injury/disease (silicosis). Take appropriate measures to avoid breathing dust.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. HMIS® ratings are to be used with a fully implemented HMIS® program.

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Notice to reader

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